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ABSTRACT

Classroom interaction research of the traditional kind is probably not worth the effort involved because it does not have its tasks or questions correctly formulated. There is no central widely available framework or paradigm that permits the ordering of the questions being asked by the researcher or locates the core phenomena that we should be dealing with. The core phenomenon is the classroom as an environment. In the absence of an understanding of this environmental context, research into teacher effects, teacher skill development, and the like will be comparatively fruitless. Research into the classroom must focus on the classroom as a setting or environment and on the management of learning in that setting. The management of learning should center on focusing the energies of students on the learning task. (Author/IRT)

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LOOKING IN CLASSROOMS: WHAT IS IMPORTANT?

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In a recent paper entitled, "Is Classroom Research Worth the Effort Involved?", Nuthall (1974) pessemistically reviewed the achievements to-date of research into classroom processes and, after considerable hesitation, suggested that it is worthwhile to continue to seek relationships between teaching variables and student learning. The caveats accompaning this recommendation were, however, many and his optimism was cautiously phrased: as he said:

> I think an honest appraisal of the current situation would have to admit that it has reached a very critical stage, similar in many respects to the stage reached by research on teacher personality and research on competing teaching methods (such as, discovery learning techniques). The application of traditional educational research designs and data analysis procedures is producing an increasing number of contradictory and ambiguous findings, which are used by some to express hope for the future and by others to condemn the whole enterprise out-of-hand. (p. 1)

Heath and Nielson (1974), for example, have condemned the tradition Nuthall is concerned with out-of-hand while Rosenshine (1976) and Dunkin and Biddle (1974) have counselled hope. I will argue here that the correct answer to Nuthall's question is no. Classroom interaction research of the traditional kind is probably not worth the effort involved because it does not have its tasks or questions correctly formulated.

This is sweeping claim. However, I believe that it must be conceded that, despite the hundreds of studies that have been completed since Anderson's (1939, 1945) classical papers, we still lack any ability to treat the central problems that face both research and public policy when it ponders the classroom; to the extent that this is so, classroom research is in crisis. There is no central framework or paradigm widely available that would permit us to order the questions being asked by the researcher or even to locate the core phenomena that we should be dealing with. I see that core phenomena as the characteristics of the classroom as a certain kind of environment and I would suggest that, in the absence of an understanding of context, research into teacher effects, teacher skill development and the like will be comparatively fruitless--as, indeed, it has been. I believe, with Nuthall, that we will only find the focus that should be our goal if we ask some fundamental questions about the questions that we should be asking; with him, I believe that the questions that lie at the heart of the existing research tradition into classroom processes have been the wrong questions, but rather than follow him into an invocation of the 'mysteries' of the classroom, an invitation

to ponder the unknown, I would urge that attention be given to what we do know and to the problems that a new understanding of the classroom must resolve. I will begin this discussion, therefore, with a review of the tasks that research on classroom processes must embrace as an introduction to the central section of this paper, the development of a view of the classroom that does, I believe, offer some potential for solving the problems we have. The view of the classroom I will offer is broadly sociological and by implication I am suggesting that such a view will allow us to bring into a useful frame much of the psychologically-embedded research that has dominated our tradition to date.

The Tasks of Classroom Research

Services like education and by necessity highly labor intensive and, as we know all too well, the costs of schools are outstripping the resources we seemingly have to meet those costs. The problem we face as we ponder fiscal problems is that no attempts to develop more productive, less labor intensive modes of teaching have been successful and no stable relationships between institutional inputs and outputs have been found as a basis for productivity analysis. Recently, however, arguments have been offered (based in part on such observational studies of schools and classrooms as Cusick, et. al. (1976) and Gump (1971) that suggests that because of the significant amount of idle time in schools a focus on the school as a unit of analysis in productivity research is inherently futile and the fundamental unit of analysis should be the individual student in his learning setting.

This emphasis on the places in the school in which the work of the school is done learning leads directly into an analysis of the classroom and its patterns. Is it possible that there is something in the forms of the classroom itself which result in lost time by individual students and is possible that there are alternative ways to teaching which are more efficient? Clearly, there are. Figure 1, for example, reports some results from a recent study by Arlin and Westbury (1976) in which learning per unit of time in a simulated 'conventional' classroom was compared with learning in a classroom in which programmed instruction was used. Clearly the modes of instruction in the conventional setting resulted in considerable learning inefficiency. When a mastery regimen is added to a PI treatment (as it was in the study from which these results were derived (Arlin, 1973) -- Figure 2) the inefficiency of the conventional classroom become even greater. The practical implication from studies of this kind centers on the extent to which the inefficiency we see here in the conventional classroom can be attributed to the patterns of setting itself and not to the skills of teachers either abstract

or individual. Studies by Dahllof (1971), Lundgren (1972) and Barr (1974, 1975) clearly suggest that the source of the problem in the classroom itself rather than teachers. Moreover, the findings of research originating in Bloom's conception of mastery learning shows very clearly that strong consistent effects can be secured fairly readily by a change in the structures within which school learning takes place: one cannot help but contrast the consistency and strength of the effects associated with this work (see Bloom, 1976) with the tentativeness of the effects seen in experimental studies of classroom interaction variables. (See, for example, Hughes, 1973; Wright and Nuthall, 1970; Nuthall, 1973).

The tasks for classroom research potentially associated with the policy issues of productivity (and mastery) reasonable happily with the preoccupations of public policy at this time. Now let me pick up some more intangible, but no less important issues that I believe our work must address.

The first cluster in this set is associated with the needs of teacher education. It stills seems that there are no languages available that might give both inservice and preservice teachers some ways of understanding the central sites and tasks of their professional lives. The need would seem to be for a kind of open-ended, yet comprehensive formulation of teaching and method that would permit teacher educators to offer their students an understanding, or rather an approach to understanding of the teacher's work and a basis for a clinical training in the skills needed for competant performance. This mission has, of course, been undertaken (e.g. Flanders Interaction Analysis), but while this effort has yielded techniques that do develop sensitivity to aspects of teaching performance it is not at all clear that the methods currently available have implicit in them a basis for a comprehensive understanding of whys and why nots. Indeed, the central thrust of the research findings that appear to be emerging at this point go in the opposite direction than that suggested by the meliorist presuppositions lying behind the techniques now being widely used -- while at the same time the prescriptions that do seem to be emerging appears less practical and less sophisticated in some senses than the hoary prescriptions associated with traditional teaching method (Rosenshine, 1976).

In short, the absence of any kind of comprehensive formulation of what happens in classrooms that is research-embedded and can embrace the contradictory findings that seem to emerge repeatedly from the literature is a central problem that research into classroom processes has not solved and the task of turning research findings into practical prescriptions still seems as elusive as ever. Paradoxically, however,

it is the research into classroom processes that has posed what appears to be the central question that this research must face if only for its policy consequences. As Barnes (1976) puts it,

> There is much evidence to show that there are common patterns of teacher behavior, and that some of these can be generalized across different levels of education and even from country to country . . . Almost all teachers appear to use the question-and-answer routine . . . as a way of controlling pupils' attention.

For some reason or other teachers have ignored a half century of admonition about the ways in which they should teach and, in so doing, have created a social setting which appears to be problematic, pervasive and intractable. Most educational researchers are reformers, and while too often a zeal for change leads to a neglect of analysis, massive failure of the kind that teacher education seems to have experienced should perhaps have played a more central role in stimulating inquiry into the classroom than it appears to have done.

It is this social fact of the perseverance of conventional teaching methods with their associated functionality and disfunctionality that locates the essential phenomenon that classroom research should be addressing. The practices of that place are, I have been suggesting, at the core of many of the problems of the school and, if my analysis of the policy problem is correct it is the procedures of that place that must change. To come to terms with these problems we have to know more about these places and begin our work with fewer assumptions about what we are dealing with. It is, I suggest, the classrooms forms that we know that have given us out current questions and current problems. Not an analysis of the fundamental features of this commonplace setting. (See Nuthall, 1974) We are, in this sense, victims of the omnipresence of our phenomena; to escape from this captivity and find the features of the place we should be examining we must step back and look at the classroom afresh. Let me outline one way of making this backward step that might serve this end.

Understanding the Classroom

Before we can approach the task of understanding the classroom we must know what it is. We must have a view of what it is that we are talking about. Thus, much classroom interaction research has focussed on methods and/or the actions of the teacher under the assumption that what the teacher and what the requires or encourages students to do is the most salient feature of the classroom environment.

But this assumption begs, I believe, the question and for the purposes of this discussion let me start in a different place, with an image of the classroom of the kind one would associate with a photograph of an ordinary lesson on an ordinary day and see how far we can get using this starting point.

How can we understand this place? First, by accepting the pervasiveness of this setting, we can see it as a manifestation of man as homo sociologicus and ask what underlying patterns and purposiveness exist in this institution. Second, let me suggest that the classroom that we know is an artificial (in Simon's (1969) sense) institution, a place designed for the performance of the work of the school. Given such a characterization we can approach the task of analysis using terms such as, Perrow's (1970) and ask what kinds of goals, structures and technologies (terms which Perrow suggests are useful for analyzing the patters of any workplace) exist in the setting. By so doing, we can distinguish the physical and organizational forms which surround to create the classroom (age grading, bounded spaces, desks, etc.) from the patternsn of work that constitute the means by which the work of the place gets done and ask why these structures and means.

Let me begin an analysis of the classroom of the kind that Perrow outlines by discussing goals. The goals of the classroom are found in the concepts of learning and teaching with learning as the end and teaching as means. By means of talk, exercises, modeling and the like, the teacher mediates between the array of connoted by the terms 'education' and the capabilities that his students have for understanding and coming to terms with those goods (Westbury, 1971, 1973). We can follow Komisar (1966,) and suggest that any teaching must address three tasks: (1) the presentation of that which is to be learned, (2) practice on the part of students in the skills, dispositions, cognitions, etc. which there are to acquire, and (3) the motivation of students in the sense that teaching must allow for potential or real lapses of intrinsic interest in the experiences they are undergoing. In addition, in the school, the teacher must also accomodate his methods to the fact that his group of students will be at different stages of mastery of the work at hand and will have differing predispositions to attend to a given task. There are, in addition, omnipresent conventions in the school controlling role expactations, resources, appropriate tasks and methods and the like which make the teacher in such settings an agent of a preexisting order. The teacher in the school is, in a sense, a captive of a given, historically embedded status quo. (Kallos and Lundgren, 1976; McKinney and Westbury, 1975).

In an earlier paper (1973) I suggested that using terms such as these as a way of mapping the domain we are seeking to understand, we can infer backwards

from the patterns of work and the structures within which that work take place to goals (in the sense of a particular set of socially embedded interpretations of the abstractions conveyed by Komisar's characterization of the goals that must be present in any teaching situation). I also implied that we can also use terms such as these to infer forward to a search of understanding what roles particular structures and technologies might play in the achievement of given goals in given settings. I argued that there is a sense in which the goals of the classroom are unattainable in any pure sense and that the best that a teacher can do in any concrete situation, given this formal unattainability, is develop strategies which cope with the problems posed by the essential irreconcilability of these ends. A practical teaching strategy becomes, therefore, a set of coping strategies which, in the aggregate, permit the teacher to secure positive affect towards the work at hand on the part of the majority of his students, give him some measure of control over their activity and attention, facilitiate coverage of a given content by most of the members of the classroom, and give most of them the opportunity to engage in the drill and practice required to master the content that makes up school learning. Using a structure of this kind I attempted a somewhat formal reanalysis of Smith and Geoffrey's, The Complexities of an Urban Classroom (1968), to see if this formal of analysis would permit a reformulation of the conclusions of their analysis. It seemed then that such reformulation was possible.[1]

In a subsequent study undertaken by Abrahamson (1974) we sought to push the form of analysis sketched my earlier paper further to see if an analysis of this kind could be applied to the task of interpretation of what real teachers do in real classrooms. As he began that task he turned again Smith and Geoffrey's archive to see whether a reinterpretation of their data and analysis could become the basis for approach to new data. Such a framework did emerge from this interpretation of their work and became basis for an analytic scheme. Let me spend some time describing Abrahamson's study because it does suggest, I believe, that the way inwhich we have been approaching the task of understanding classrooms does have some empirical utility and enriches significantly the somewhat formal approach to interpretation of the classroom outlined in the earlier paper.

If Geoffrey's decision structures can be taken as typical the college of elements that together make up a teaching strategy can be reconstucted in terms suggested by three levels of decision: (1) the choice of a grand strategy, (2)

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1. Harold and Ann Berlak, (1975, 1976) are developing a dilemmma-focussed view of the classroom that is, in many respects, parallel to that offered here.

the formulation of a basis teaching approach, and (3) the selection of a set of supplementary tactics.

Abrahamson's analysis of Geoffrey's classroom performance in these terms is presented in Figure 3. Geoffrey's decided at the grand strategy level to omit certain coverage demands so that he could have time to develop mastery of basic skills on the part of low ability students. To achieve then this goal, he selected a slow, methodical basic approach that was appropriate for developing this kind of mastery, but was at the same time poor at maintaining attention and creating positive student affect. He overcame these weaknesses of his basic approach by means of an array of supplementary behaviors that appeared to make up for these deficiences.

Using this framework Abrahamson undertook an observational study in an American university laboratory school. Six high school teachers, two each from the subject matter fields of English, social studies and mathematics were observed. The primary source of data for his study was a daily record of classroom interaction gathered in a non-participant mode. Since the data was to be used to determine general approaches or teaching patterns, fine-grained procedures or those that record exactly what a teacher syas were not used. Instead, he concentrated on what the teacher was "doing" in a general sense with his words and actions. Additional data were gathered during the study to supplement this daily record and to check on the interpretation of events. Student tests and major written assignments were monitored before they were returned to the students. He also secured data about students who met with the teacher outside of class, and the purposes and outcomes of these sessions. His interpretation of the activities of the classroom was checked in the course of informal conversation and by extensive interviews with the teachers at the conclusion of the observation period.

Two steps were used to transform field notes into the terminology of coping strategies: (1) distinguishing behavior that was significant in terms of coping with the classroom setting and (2) determining in what ways significant behavior affected the proposed classroom demands. The final result was a grid intersecting the four core elements he identified as constituting teaching procedures -- homework, main in-class activity, supplementary maneuvers and supplementary tactics -- with the four classroom tasks or demands -- affect, coverage, mastery and attention (see figure 4) and using this grid form he attempted to delineate the presumed effects of significant teacher behavior on the classroom setting. A plus rating

implies that he believed that the behavior demonstrated could affect the demand, a minus rating implied that the behavior would impede the accomplishment of the demand. A dash implied that the behavior has either no obvious effect on the demand or that it has conflicting effects that concel each other out.

All six teachers included in Abrahamson's study exhibited repetitive or patterned classroom behavior. Three of the six teachers used a simple dominant teacher-student interaction pattern (main in-class activity) for practically every lesson. Two of the remaining three teachers supplemented their dominant in-class activity with a secondary lesson format that appeared to break up the repetitiveness of their model lesson. The last teacher used the same basic approach for practically every lesson, but consumed the first or last five or ten minutes of the class period with a variety of other classroom activities.

Nevertheless, despite these differences in procedures, it did seem possible to assimilate the basic elements of all of the approaches Abrahamson observed into the terms of the framework he began with. Abrahamson was, in other words, able to capture the microbehaviors of six individual teachers within a comprehensive, multi-dimensional conceptualization that interpreted their classroom performance in terms derived from an analysis of the characteristics of the setting in which they worked. The question is, what does such an approach mean for our understanding of classrooms? Before venturing in that direction, however, we must look briefly at the goals that created the classroom settings that we know.

The Curriculum and the Classroom

In an earlier paper (forthcoming) I suggested, following Stinchcombe (1968), that we will only come to terms with the nature of the classroom as a contrived social setting if we examine the milieu in which this setting came into being. Geoffrey, the teachers Abrahamson observed, indeed all teachers are captives of the places and roles which are given them and their task to re-enact in appropriate and workable (for them!) ways the forms of their places and roles. The research that I have been discussing suggests that this is a sustainable and a useful way to view teaching, but it poses a set of further questions about the nature of that place and role. These questions are historical and although they cannot be answered with any precision at this point it does appear that we can locate the origins of both contemporary classroom structure and method in a set of decisions made by nineteenth century school men about how the mass provision of effective public schooling might best be achieved.

Thus, a reading of nineteenth century method texts (see, for example, Currie, 1884) suggests that the tasks of the school were seen in terms of the intellectual skills derived from faculty psychologies, and information transmission and social severely modulated by omnipresent conceptions of stations and duty. Currie uses analogies drawn from digestion of food to describe his view of the learner's tasks with an implication that faculties might be seen as "organs". His problem was in the forms if associated with such conceptions of the school task to educate a population and to do this teaching "power" had to be deployed before multitudes of children in such a way that their attention was focussed on the learning at hand. As Currie wrote:

> The art of teaching as applied in the common school comprehends all of the means by which the teacher sustains the attention of his class.
>
> By attention we do not mean the mere absence of noise and trifling; or that inert passive state in which the class, with eye fixed on the teacher, it may be, gives no symptom of mental life; nor that intermittent and almost unconscious attention bestowed on some causual topic which strikes their fancy; nor the partial attention given by a few who may be in the immediate neighborhood of the pupil addressed. The only satisfactory attention is that which is given voluntarily and steadily by all during the entire instruction, and which the mental attitude to the class actively engaged along with the teacher in working out their own instruction. (p. 224)

As Seaborne's (1971) study of English school architecture makes quite clear, the forms of the classrooms we now know were the result of a clear preference of nineteenth century reformers for group instruction by adult and pupil teachers as the way in which Currie's ends might be achieved. And during the 1840's and 1850's plans were promulgated for school buildings in which the methods of group instruction might be most effectively employed -- plans that were the results of extensive investigations of optimal and cost effective spatial patterns. The buildings they designed were clearly the forerunners of the modern school and stand in market contrast to the kinds of structures being built only a decade or two earlier (see Figure 6). The classrooms we now have and the curriculum which is at the core of the contemporary school, are the direct descendents of this world. It is, in this context, perhaps not surprising that process-oriented

observers such as Rosenshine (1976) can conclude the direct instruction of the kind that nineteenth century masters and mistresses of method preached and prescribed still functions most effectively in our latter-day versions of these same spaces. The teachers Abrahamson observed were still coping with spaces that were built in the first years of this century and were no different in essentials from those built later. The methods that these teachers had in their repertoires were miliarly unchanging. Given that teachers learn to teach not from the prescriptions of college, but from their observation of the teaching of their own school years (Lortie, 1975) and given that it appears as if system that our nineteenth century forbears hoped to create only came to fruition two generations ago, it is not surprising that we still see all too frequently the methods that were designed the tasks of what would seem at first blush to be a different age. The epistemological and social revolutions which made these spaces anachronistic dates, when all is said and done, only to the past few years; inasmuch, as public education has had more fundamental problems to deal with for most history, problems of provision of schooling rather than change, the resources that would be required to effect a true change of the assumptions and the methods of a whole generation of teachers have not been available to bring about attention to the goals implied in these resolutions.

Implications

But enough of specifics. Let me now seek to explicate what the view of the classroom and its procedures that I have been outlining here seems to mean for research on teaching and instruction. How, given this view of the classroom, can we address the issues that I outlined earlier and particularly the problems of productivity and mastery. I am assuming that the thrust of the argument that has been made in the central pages of this essay suggests a context for approaching the needs of teacher education and the task of understanding what the patterns of the classroom mean.

The central theme of our interpretation of the classroom goes in the direction of a view of teaching as it is practiced as an re-enactment of forms. Lundgren (see Kallos, 1976) has made a similar point with his observation that the teachers he observed seem more concerned with moving a lesson (itself a form) forward rather than instructing their students in any true sense. His focus is on the execution of the rituals that constitute a teaching performance and such learning as takes place (and it might be considerable depending on the circumstances) is, in a direct sense, a function of the qualities of the total setting rather than a direct outcome of what teachers do.

If this form of analysis of teaching is correct it would seem to lead directly to a view of the tasks of research on teaching, a recognition that is implicit in the form of much of the conventional research, but for some reason never seems to become explicit. Such research must be directed at the goal of understanding the why's and how's of successful teaching-in-context so that these understandings might become available to teachers. Abrahamson's study and Berlak and Berlak's work (1977 - 1976) suggests that the teaching can be seen as functionally rational: I would suggest that this implicit rationality can and must become explicit. This has, of course, been the goal of most research on classrooms but the how-to quality of the work and its focus on teaching-as-instruction rather than teaching as the management of learning has, I believe, diverted us from what should be our central task, that of explaining why particular modes of social organization and communication function in a particular kind of setting.

Ultimately, of course, the significance of a line of research of this kind must be viewed as being embedded in the significance of the kind of setting being investigated. This observation leads directly to a second more explicitly normative set of reflections on the tasks I see lying before classroom research at this time.

I have already suggested that the classroom as we know it is a particular kind of institution developed in the nineteenth century to achieve particular kinds of goals. It is not yet possible to characterize definitively this setting but clearly Barnes (1976) is right in associating it with a transmission view of learning, and Kallos and Lundgren (1976) are similarly correct is associating this classroom with the social task of stratification. Mastery was, given a stratifying context, only a secondary goal and labor productivity was not an issue given the minimalist goals held for the school and the availability of womanpower for the schools. Clearly, however, all of these assumptions about ends with their implicit means are anachronistic at this time and to the extent that this is so there must be questions raised about the utility of any research tradition which pursues problems associated with such a goal-set and accepts the general patterns of method which are part and parcel of a system designed to deliver such goals. Immediately, of course, such research may have practical value because there are conventional classrooms everywhere, but even for teacher training, it would seem that end of understanding such places is of limited significance. The schools require new settings in which new goals might be actualized and a generation of teachers which might work in such new settings. The design of such new setting requires us to know what problems we should be seeking to solve in such a redesign.

The key term in any approach to this task of agenda setting is 'work'. The traditional focus of research on classroom processes has been on the teacher's work, but as the findings reported in Figure I suggest one result of the ways in which teacher do their work is that students work with less optimal efficiency. As Cusick et. al. note, even during 'instructional time' there are considerable periods in which they have literally nothing to do. As they wish:

> We attributed this to three basic assumptions around which the classes were organized; (1) that knowledge is compartmentalized, (2) that teachers are subject matter specialists in these various compartments, and (3) that the ideal way to pass on knowledge is to place thirty or so students in a room with a teaching specialist and have that specialist verbalize the intricacies of the specialty. When these assumptions were operationalized, the result was that teachers did most of almost all of what there was to do, the talking, inquiring, gesticulating, and of course, this reduced the amount of activity available for students. Actually student involvement was discouraged except where students were encouraged to react to the teachers. Furthermore, student involvement was usually singular with one student interacting with the teacher while others observed the interaction. This whole process demanded a large amount of teacher attention to maintain and supervisory matters. In fact, we suggested that the teachers frequently spent more energy supervising the 24 or so observers than in interacting with the single respondent. This detracted from the instructional process, exaggerated the importance of maintenance activity for the teachers, and similarly exaggerated the importance of compliance with organizational demands for the students.

The implication is that is the energies of students could be better focussed on the learning task, achievement might be maximized. (Rothkopf, 1968) This was, it will be remembered, Currie's (1884) concern. The question is, How might this be achieved within a context where new goals can be and probably must be entertained and new means might be available? How, in other words, might the classroom be managed (not how might instruction be carried on) so as to maximize a focus by each student on the learning at hand? This is, of course, a radically different kind of question than the one which lies at the heart of traditional research on instruction (although see Gump, 1971). It is, however, a point of view which can accommodate many of the results of research initiated with a different question.

Yet, given the strength of the findings associated with mastery learning and those of observational studies focussing on classroom structure and management (see, for example, Arlin and Westbury, 1976; Barr, 1974, 1975) and the formlessness and tentativeness of the findings that Rosenshine (1976) can find in the more traditional classroom interaction research some shift in the focus of classroom research would seem desirable. Wilkof (1976) has sought to find a way through the thickets associated with both of these approaches by exploring the possible role of feedback, a managerial variable, in enhancing the ability of the teacher to allocate her scarce instructional resource of time across the contents specified by a curriculum. In so ding he has perhaps provided the key to the puzzles that all instructional research should be venturing by linking curriculum with instruction in a significant fashion and offering a dynamic conceptualization of the teacher's task, on which significantly focusses on the factors that enter into decisions about the deployment of time rather than on the efficacy of her use of a given unit of time.

Given approaches such as that suggested by Wilkof what is the possible agenda for research in classroom processes that might be associated with the management of instruction in traditional settings and on new structures and technologies or teaching in newer settings. Thus, the mastery learning approaches associated with Bloom (1976) appear to achieve a much greater control by the teacher of the work practices and patterns of their students -- with massive concomitant improvements in the productivity of classrooms vis-a-vis conventional goals. Mastery approaches do this by manipulating the system that is a classroom and offer the teacher a means for the allocation of time over a specified and defined curriculum and the student a way of monitoring his/her learning vis-a-vis this same curriculum. Of course, within such a conception of teaching the traditional concerns of classroom research for optimal modes of presentation and the like (a concern which Bloom associates with quality of instruction) have an important place, but at the same time there must be a concomitant focus on quality of learning by students. Quality of learning is not, of course, the converse of quality of instruction; to use the terms discussed earlier, quality of instruction is usually associated with the presentation of that which is to be learned (coverage) whereas quality of learning is associated with the development of mastery. The design task is one of developing structures and technologies which attend to both of these goals within a group context. How might this be achieved?

Cusick et. al. describes one grass roots development of instructional methods which are reminiscent of the work-design efforts of human relations oriented de-

velopers such as those associated with the Tuistock Institute. As I have suggested elsewhere (Westbury, 1973) open education appears, in some of its forms at least, to reflect a concern for developing total classroom environments in which new, less anachronistic goals for the school might be achieved. Approaches of this kind, and the problems they raise both practically and intellectually, would seem to be central to a newly conceived research into classroom processes and would seem to offer a way by which classroom research can find a focus that connects it with the central public policy problems of this time. There is merit, no doubt, in the task of understanding how conventional classrooms function for they are, as Adams (1971) has suggested, everywhere, but as we venture in this direction, we should ask ourselves how important it is to us today to understand how mass oral communication might be best undertaken in an environment that is without public address, radio and television. Clearly the answer to the question is such research work the effort involved would be no. Is it possible that we should answer Nuthall's question with the same negative not only beacuse the yield of the effort has been comparatively slight, but also because our view of what classroom might become, our view both its problems and its potentials as a setting, is shifting, and must shift significantly?

Abrahamson, J.H., Classroom Constraints and Teacher Coping Strategies: A Way to Conceptualize the Teaching Task. Ph.D. dissertation, University of Chicago, 1974.

Arlin, M.N., Rate and Rate Variance Trends under Mastery Learning. Ph.D. Dissertation, University of Chicago, 1973.

Arlin. M.N., & Westbury, I., "The Leveling Effect of Teacher Pacing on Science Content Mastery", Journal of Research in Science Teaching, 13 (1976), pp. 213-19.

Barnes, D., From Communication of Curriculum. Harmondsworth: Penguin Books, 1976.

Barr, R.C. "Instructional Pace Differences and Their Effect on Reading Acquisition." Reading Research Quarterly 9 (1974): 526-54.

Barr, R.C., "Instructional Pace Differences and Their Effect on Reading Acquisition." REading Research Quarterly, 9 (1975).

Berlak, A., Berlak, H., Bagestos, N., & Midel, E., "A Participant-observation Study of Teaching and Learning in English Primary Schools." School Review 83 (1975): 215-43.

Berlak, A., and Berlak, H. The Dilemmas of Schooling St. Louis, MO.: Webster College, 1977 Unpublished manuscript.

Bloom, B.S., Human Characteristics and School Learning. New York: McGraw-Hill, 1976.

Currie, J. The Principles and Practice of Common-School Education, Cincinnati: R. Clarke, 1884.

Cusick, P., Martin, W., & Palonsky, S., "Organizational Structure and Student Behavior in Secondary School", Journal of Curriculum Studies 8 (1976), pp. 3-14.

Dahllof, U., Ability Grouping, Content Validity, and Curriculum Process Analysis. New York: Teacher College Press, 1971.

Adams, R., "A Sociological approach to classroom research." In Research into Classroom Processes. (Edited by I. Westbury and A.A. Bellack) New York: Teachers College Press, 1971.

Dunkin, M.J. and Biddle, B.J. The Study of Teaching. New York: Holt, Rinehart and Winston, 1974.

Gump, P.V., "What's happeing in theelementary classroom?" In Research into classroon processes. (Edited by I. Westbury and A.A. Bellack.) New York: Teachers College Press, 1971.

Heath, R.W. and Nielson, M.S., "The Research Base for Performance-Based Teacher Educatin." Review of Educational Research 44(1974): 463-84.

Hughes, D.C. "An Experimental Investigation of the Effects of Pupil Responding and Teacher Reacting on Pupil Achievement." American Eucational Research Journal, 10 (1973): 21-37

Kallos, D. The Study of Pedagogical Processes, Pedagogical Reports, Department of Education, University of Lund. 1976: 3.

Kallos, D. and Lundgren, U.P., An Enquiry Concerning Curriculum: Foundations for Curriculum Change. Gothenberg: Institute of Pedagogy, University of Gothenberg, 1976.

Komisar,B.P., "The Non-science of Learning," School Review 74 (1966): 249-64.

Lortie, D., School-teacher. Chicago: University of Chicago Press, 1974.

Lundgren, U.P. Frame Fractors and The Teaching Process. Stockholm: Alyqvist and Wiksell, 1972.

McKinney, W.L. and Westbury, L. "Stability and Change: The Public Schools of Gary Indiana, 1940-1970." In Case Studies in Curriculum Change. (Edited by W.A. Reid and D. Walker) London: Routledge and Kegan Paul, 1975.

Nuthall, G., "Is classroom interaction research worth the effort involved?", New Zealand Journal of Educational Studies, 9.1, 1974.

Perrow, C., Organizational Analysis. London: Tavistock, 1970.

Rosenshine, B., Direct Instruction. In The Psychology of Teaching Methods, The 75th Yearbook of the National Society for the Study of Education, Part I (Edited by N.L. Gage). Chicago: the Society, 1976, 335-71.

Rothkopf, E.Z., "Two scientific approaches to the management of instruction." In Learning Research and School Subjects. Eighth Annual Phi Delta Kappa Symposium on Educational Research (Edited by R.M. Gagne and W.J. Gephart) Itasca, IL: F.E. Peacock, 1968, 107-31.

Simon, H.A. The Sciences of the Artificial. Cambridge, Mass: MIT Press, 1969.

Seaborne, M. The English School: Its Architecture and Organization 1370-1870. London: Routledge and Kegan Paul, 1971.

Smith, L.M. and Geoffrey, W., The Complexities of an Urban Classroom. New York: Holt, Rinehart and Winston, 1968.

Stinchcombe, A.L. "Social Structure and Organizations." In Handbook of Organization (Edited by J.G. March). Chicago: Rand, McNally and Co., 1965, pp. 142-94.

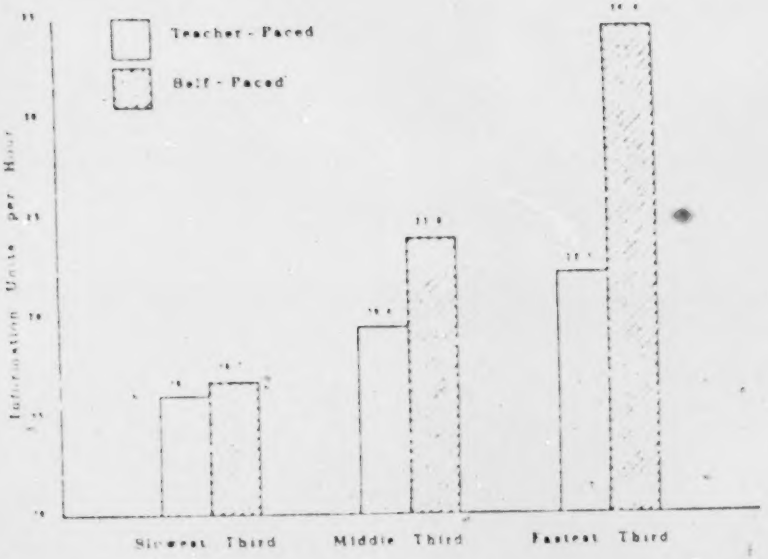
Westbury, I., "Conventional classrooms, 'open' classrooms, and the technology of teaching," Journal of Curriculum Studies 5 (1973).

Westbury, I., "Curriculum, A search for ends and means,: In Rethinking Educational Research, (edited by W.B. Dockrell and D. Hamilton). London: Hodder and Stoughton, forthcoming.

Wilkof, N.J. Feedback in Teaching, Urbana, IL: University of Illinois at Urbana-Champaign, Department of Secondary Education, 1976, Unpublished paper.

Wright, C.J. and Nuthall, G.A. "The Relationships between Teacher Behavior and Pupil Achievement in Three Experimental Elementary Science Lessons," American Educational Research Journal 7 (1970): 477-91.

Figure 1. Mean learning rates of slowest, middle, and fastest thirds of students under two two types of pacing (N=60; 10 per sub-group)*



* From E.N.Arlin and I.Westbury, "The Leveling Effect of Teacher Pacing on Science Content Mastery," Journal of Research on Science Teaching 13(1976)

Figure 2

Arlin.

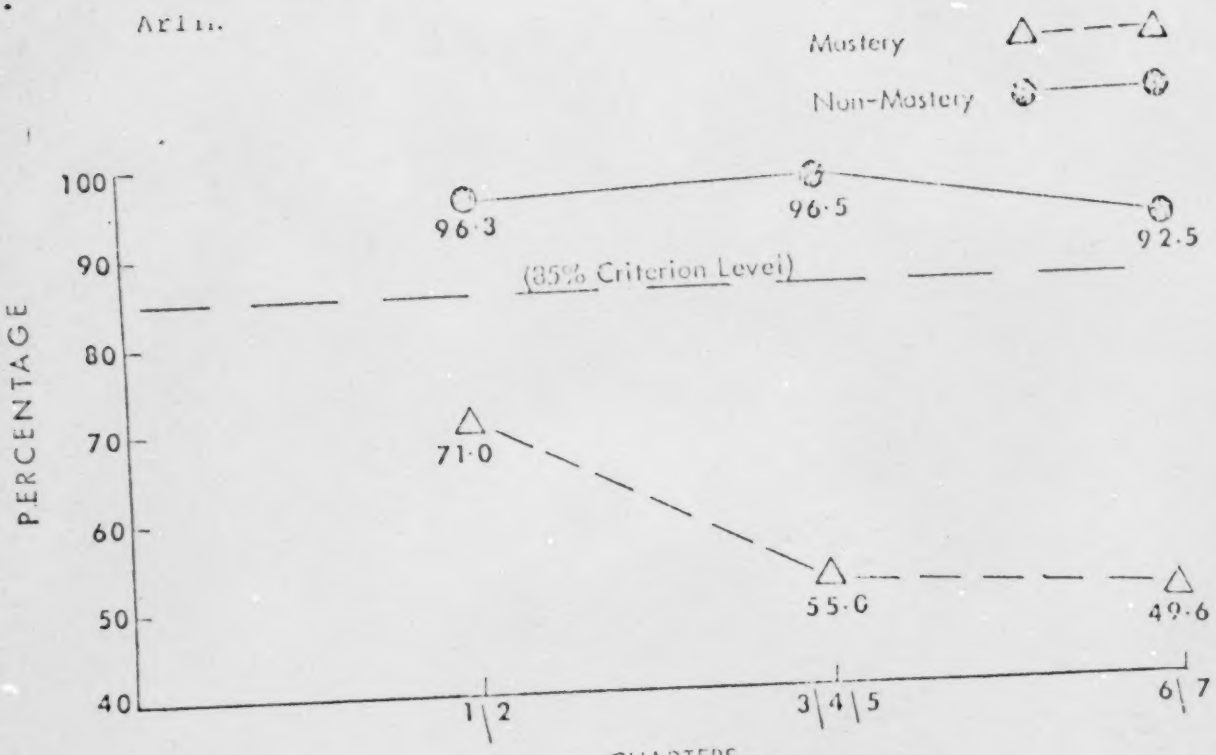
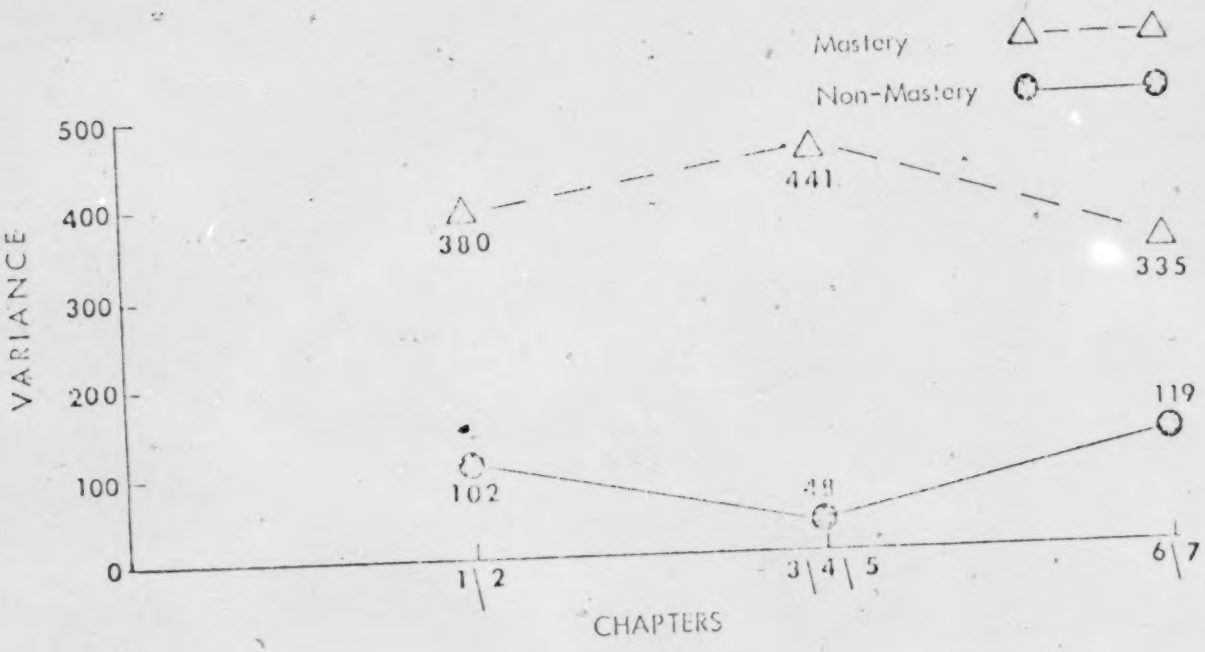


FIGURE 2

FINAL ACHIEVEMENT LEVEL



From M.N.Arlin, Rate and Rate Variance Trends under Mastery Learning. Ph.D. dissertation, University of Chicago,1973.

Figure 3.--A detailed analysis of Geoffrey's coping strategy.

DECISION LEVEL	STUDENT AFFECT	COVERAGE OF TOPICS	STUDENT MASTERY	CLASS ATTENTION
Grand Strategy[a]		Omit certain content areas, such as art music, health and science	Emphasize mastery of basic skills in English and math	
Basic Approach			"cues, trial, feedback, trial" slow and easy pace	
Supplementary Maneuvers	Banter Sense of humor Personalized interaction Softening the tone			Dramatic flair Mock anger Ferocious tiger Skirmishing Getting off the hook Awareness Ringmaster 767 interactions
Supplementary Tactics				The contract "I mean it"

[a]When confronted with the problem of teaching to the class as a whole, Geoffrey seemed to select as his target group, average and below average ability students.

*From Jon H. Abrahamson, Classroom Constraints and Teacher Coping Strategies: A Way to Conceptualize the Teaching Task. Ph.D. dissertation, University of Chicago, 1974, p. 67.

FIGURE 4

A Rating of the Presumed Effect of Mrs. Moore's Basic Approach, Supplementary Maneuvers and Tactics on the Four Classroom Demands

	Affect	Coverage	Mastery	Attention
Basic Approach				
Homework				
"Do Problems"	(---)	+	+	(---)
Main In-Class Activity				
"Teacher Explanation"	(-)	(+)	(---)	(---)
"Student Call-Outs"	(+)	(---)	(---)	+
Supplementary Maneuvers				
"Make Sure Everyone Is Following Along"	---	(-)	(+)	(---)
"Go Over It One More Time For Good Measure"	---	(-)	(+)	(---)
"Sense of Humor"	+	(---)	(---)	(+)
"Pedagogical Side-Trips And Side-Comments"	+	(-)	(---)	(---)
"Illustrations On The Board"	(---)	(---)	(+)	(+)
Supplementary Tactics				
"Selective Choice of Illustrations"	(---)	(+)	(---)	(---)

From J.H.Abrahamson, Classroom Constraints and Teacher Coping Strategies: A Way to Conceptualize the Teaching Task. Ph.D. dissertation, University of Chicago, 1974.

FIGURE 5

E	Strategy	Accuracy of Main En-Class Activity				Teacher Interpersonal Style	Personal Qualities Needed
		At	C	M	At		
.re	very predictable modal lesson	-	+	---	---	equal emphasis among four demands	good, fundamental knowledge of math
		+	---	---	+		
.es	very predictable modal lesson	+	+	+	---	equal emphasis among four demands	discretion that will allow students to do most of the talking
		+	-	+	-		
		+	-	+	+		
.ch	very predictable modal lesson	---	+	---	+	equal emphasis among four demands	be generally supportive of student efforts
		+	-	+	---		
		---	+	+	---		
	two modal lessons that alternate	modal I				strong emphasis on coverage rather than other demands	ability to project a sincere interest in student concerns and possession of a wide and varied range of personal experiences
		---	-	-	-		
		modal II					
		-	+	---	---		
mix	small segment within most modal lessons that varies	-	+	---	---	strong emphasis on affect rather than on other demands, which is reflected in his supplementary maneuvers	overwhelming personality, extensive vocabulary, ability to banter, thorough knowledge of student sub-culture, Ivy League athlete
		+	---	---	+		
wn	one modal lesson and one secondary lesson that alternate	modal lesson				strong emphasis on mastery - ignores coverage to large extent	conviction in the rightness of your approach so that you can purposely create student anxiety and frustrati...
		-	-	+	-		

From J.H.Abrahamson, Classroom Constraints and Teacher Coping Strategies: A Way to Conceptualize the Teaching Task. Ph.D. dissertation, University of Chicago,197...